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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Satoru Adachi

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NTT Mobile Communications Network I/BHGL

P.O. Box 10395

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EXAMINER

PATEL, JAYESH A

ART UNIT

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2624

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/680,205	Applicant(s) ADACHI ET AL.	
	Examiner JAYESH A. PATEL	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/27/08 and 08/28/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 08/27/2008 has been entered. The applicant filed the IDS to be considered.

Claims 1-10 and 14-27 were canceled.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim contains " A computer readable medium storing computer executable

instruction”, however the original disclosure does not support that the applicant had the possession of the above limitation. The applicant is advised to show the support in the disclosure or cancel the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson et al (US 20030161397) hereafter Watson in view of Mathias Wein (Q15-K-24) hereafter Mathias.

1. Regarding claim 11, Watson discloses an image decoding (Video decompression apparatus or decoder at Page 2 para 0021) method of decoding encoded data encoded by an image encoding method of dividing image signals into blocks of different sizes, performing an orthogonal transform of each block, reading resultant orthogonal transform coefficients to obtain a coefficient string, dividing a coefficient string of a block of a size larger than a minimum size into a plurality of coefficient strings of a length equal to that of a coefficient string in a block of the minimum size, and performing entropy coding thereof, the image decoding method comprising:

a decoding step of performing decoding of the encoded data and obtaining the coefficient string **(the decoding of the data values in a video decompression apparatus suggest a decoding operation is performed on Page 2 para 0021);**

a coefficient string constructing step of **(A reordering operation on a matrix of input data values at para 0013)**, when the coefficient string decoded in the decoding step is of a block of a size larger than the minimum size **(paras 0017- 0018 and 0020-0022) where the data strings (coefficient strings) consists at least two data sub strings shows the coefficient string is constructed or reordered)**, constructing a coefficient string of the block of the larger size from a plurality of coefficient strings decoded in the decoding step **(paras 0017-0018 and 0020-0022) where the data strings (coefficient strings) consists at least two data sub strings shows the coefficient string is constructed or reordered); and**

an inverse orthogonal transforming **(Watson discloses the matrix is orthogonal of the data values at para 0020. Watson also discloses that the reordering operation is on the matrix of input data values at para 0013. Watson discloses that the video decompression apparatus at para 0021 and 0022. Watson also discloses matrix inversion at para 0258. Although Watson does not expressly recite “an inverse orthogonal transforming”, however the above citings suggest that the inverse orthogonal transform is being performed and it is obvious that the steps of decoding are reverse of**

the encoding step, so the DCT at encoding becomes IDCT at the decoding or decompression or decoder) an image signal by performing an inverse orthogonal transform on the coefficient string constructed in the coefficient string constructing step,

wherein the encoded data is encoded data of a coefficient string consisting of 16 coefficients (**length of each data sub string of coefficients is 16 at para 0018**) obtained by performing an orthogonal transform on the block of an 8x8 pixel size (**the predetermined length of the data string of 64 suggests the orthogonal transform of matrix of 8X8 equals 64, 8X8 matrix is also disclosed at para 0177 which suggests the use of the matrix**), reading the orthogonal transform coefficients sequentially from a low frequency component (**Zig-Zag scan is a low freq to high frequency read as seen in the fig 3 and also para 0008 shows that top portion is a low frequency data**), and assigning the resultant 64 coefficients, from a low frequency component one by one in order, to four coefficient strings (**Para 0060 where the four packed objects are 16 bit or coefficients width resulting from the total length of 64 bit or coefficients**); the decoding step performs decoding of the encoded data of the coefficient string consisting of 16 coefficients (**length of each data sub string of coefficients is 16 at para 0018**); the coefficient string constructing step(**paras 0017-0018 and 0020-0022**) where the data strings (**coefficient strings**) consists at least two data sub strings shows the coefficient string is constructed or reordered at the decoding side), when the coefficient string

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decoded in the decoding step is of the 8x8 pixel size block, constructs the coefficient string consisting of 64 coefficients by reading and arranging the coefficients of the four coefficient strings of the 8x8 pixel size block (**Para 0060 where the four packed objects are 16 bit or coefficients width resulting from the total length of 64 bit or coefficients**), decoded in the decoding step, from a low frequency component one by one in order; and the inverse orthogonal transforming step decodes the image signal by performing an inverse orthogonal and on the coefficient string of the 8x8 pixel size block (**the predetermined length of the data string of 64 suggests the orthogonal transform of matrix of 8X8 equals 64, 8X8 matrix is also disclosed at para 0177 which suggests the use of the matrix**) constructed in the coefficient string constructing step (**Watson discloses the matrix is orthogonal of the data values at para 0020. Watson also discloses that the reordering operation is on the matrix of input data values at para 0013. Watson discloses that the video decompression apparatus at para 0021 and 0022. Watson also discloses matrix inversion at para 0258. Although Watson does not expressly recite "an inverse orthogonal transforming", however the above citings suggest that the inverse orthogonal transform is being performed and it is obvious that the steps of decoding are reverse of the encoding step, so the DCT at encoding becomes IDCT at the decoding or decompression or decoder**).

Watson discloses the different bit lengths in **para 0018** which would mean different blocks are used and the blocking process as in the **Fig 3**, however does not expressly recite different block sizes transforms.

Mathias discloses different block transforms of different sizes at Page 1 Fig 1. Mathias discloses that the adaptive block transform **using the different matrices size (blocks)** other than 4X4 fixed matrices showed the gain of 1.5 db at page 1 introduction section. Mathias and Watson are from the same field of endeavor and are analogous art therefore it would have been obvious for one of ordinary skill in the art at the time of the invention to have used the teachings of Mathias of higher gain in the decoder of Watson for the above reasons.

2. Claim 12 is a corresponding apparatus claim of claim 11. Watson also discloses the video decompression apparatus (decoder) at para 0021.

3. Claim 13 is a corresponding computer readable medium claim of claim 11 as best understood by the examiner. Watson also discloses the memory storing the program at para 0016.

Other cited prior art

The other cited prior art made of record but not relied on are (US 5631744), (US 20040066974), (US 20020157005), (US 5872866) and (US 5724096).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAYESH A. PATEL whose telephone number is (571)270-1227. The examiner can normally be reached on M-F 7.00am to 4.30 pm (5-4-9). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/12/08
/Jayesh A Patel/
Examiner, Art Unit 2624

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624